

CLAIMS

We claim:

1. A docking station for interfacing a wireline telephone installation to a handheld wireless telephone comprising:

5 translation means for translating communication signals between the handheld
wireless telephone and the wireline telephone;
a main controller box;
a releasable connecting module removably connected to the main controller box,
the releasable connecting module being used to connect the handheld wireless
10 telephone to the main controller box; and
wired means for connecting the docking station to the wireline telephone.

2. The docking station as claimed in claim 1, wherein the wireline telephone forms part of a system of wireline telephones.
3. The docking station as claimed in claim 1, wherein the translation means is located within
15 the main controller box.
4. The docking station as claimed in claim 1, wherein the translation means is located within the releasable connecting module.

5. The docking station as claimed in claim 1, wherein the main controller box additionally comprises a data bus connector; and the releasable connecting module comprises:

a first data bus connector for connection to a corresponding data bus connector in the handheld wireless telephone; and

- 5 a second data bus connector for connection to the data bus connector in the main controller box.

6. The docking station as claimed in claim 5, the main controller box additionally comprising an automatic locking device; and the releasable connecting module additionally comprising a corresponding automatic locking device for connection to the automatic locking device of the main controller box.

7. The docking station as claimed in claim 6, wherein the releasable connecting module has retaining means for retaining the handheld wireless telephone.

8. The docking station as claimed in claim 7, wherein the retaining means comprises a portion of a surface of the releasable connecting module defining a cup, the cup being substantially the same shape and size as a surface of the handheld wireless telephone having a data bus connector, the cup further comprising the first data bus connector for connection to the data bus connector of the handheld wireless telephone, whereby the first data bus connector contacts the data bus connector of the handheld wireless telephone when the handheld wireless telephone is inserted into the cup.

9. The docking station as claimed in claim 8, wherein the handheld wireless telephone is retained in the cup by gravity.

10. The docking station as claimed in claim 8, wherein the handheld wireless telephone is retained in the cup by friction.

5 11. The docking station as claimed in claim 8, wherein the translation means is comprised of a first translation means for translating communications signals transmitted between the handheld wireless telephone and the main controller box, and a second translation means for translating communication signals between the main controller box and the wireline telephone.

10 12. The docking station as claimed in claim 11, wherein the cup is physically configured to connect a particular make and model of handheld wireless telephone to the main controller box; the first data bus connector is physically configured to connect to the corresponding data bus connector in the handheld wireless telephone; and the first translation means translates signals between a particular make and model of handheld wireless telephone and
15 the main controller box.

13. The docking station as claimed in claim 12, wherein the first translation means is located in the releasable connecting module, and the second translation means is located in the main controller box.

14. The docking station as claimed in claim 13, wherein the releasable connecting module additionally comprises means for connecting to a second releasable connecting module so that the docking station may be connected to more than one handheld wireless telephone at a time.

5 15. The docking station as claimed in claim 14, wherein the main controller box is connected to at least two releasable connecting modules so that communication signals may be translated between the wireline telephone and one of at least two handheld wireless telephones each of which is retained by one of the at least two releasable connecting modules.

10 16. The docking station as claimed in claim 1, wherein the docking station is configured to translate communication signals between the handheld wireless telephone and the wireline telephone when the communication signals are received and sent by the handheld wireless telephone to and from a wireless telephone network.

15 17. The docking station as claimed in claim 16, wherein the wireless telephone network is a digital PCS network.

18. The docking station as claimed in claim 16, wherein the wireless telephone network is a AMPS network.

19. The docking station as claimed in claim 16, wherein the wireless telephone network is a CDMA network.

20. The docking station as claimed in claim 16, wherein the wireless telephone network is a GSM network.

21. The docking station as claimed in claim 16, wherein the wireless telephone network is a TDMA network.

5 22. The docking station as claimed in claim 16, wherein the wireless telephone network is an iDEN™ network.

23. The docking station as claimed in claim 1, further comprising a serial connection means for connecting a computer to the docking station so that the computer may access a wireless telephone network.

24. The docking station as claimed in claim 1, further comprising an Ethernet connection means for connecting a computer network to the docking station so that the computer network may access the wireless telephone network.

25. The docking station as claimed in claim 14, wherein the main controller box further comprises a communication means for simulating communication signals in a manner to make it appear to users of the wireline telephone that the wireline telephone is connected to a landline telephone network.

26. The docking station as claimed in claim 25, wherein the communication means simulates at least the following features available on conventional telephone networks: multi-party

conferencing, call hold, call mute, call forwarding, fax notification, net mail notification voice mail, one touch voice mail retrieval, caller identification, short message service and call waiting.

27. The docking station as claimed in claim 26, the communications means further comprising
5 a dial tone generator, a busy tone generator, a ring generator and a DTMF decoder.

28. The docking station as claimed in claim 26, wherein the wireline telephone is connected to the wired means, and the handheld wireless telephone is connected to the releasable connecting module.

29. The docking station as claimed in claim 28, wherein the wired means comprise at least one
10 telephone jack located in the side of the main controller box.

30. The docking station as claimed in claim 29, wherein the communication means further comprises a voltage circuit detection means to detect whether voltage is present in the connection to the wireline telephone, and, if voltage is detected by the voltage circuit detection means, then the voltage circuit detection means isolates the docking station
15 from the landline telephone network.

31. The docking station as claimed in claim 30, further comprising a first power status LED for indicating that the releasable connecting module is connected to a power source, a second power status LED for indicating that the main controller box is connected to a power source, a connection status indicator LED for indicating that voltage is not present

in the connection to the wireline telephone, and a ready status indicator LED for indicating that the docking station is ready to translate communication signals between the handheld wireless telephone and the wireline telephone.

32. The docking station as claimed in claim 31, comprising a battery charger for charging the battery on the handheld wireless telephone.

33. The docking station as claimed in claim 32, wherein the communication means further comprises a signal restriction means for restricting signals that may be translated by the docking station to those of at least one wireless telephone network service provider.

34. The docking station as claimed in claim 33, wherein the main controller box additionally comprises a flash memory for upgrading and maintaining the communication means and the second translation means.

35. The docking station as claimed in claim 34, wherein the translation means additionally comprises a flash memory for upgrading and maintaining the first translation means.

~~36.~~ A handheld wireless telephone system, comprising:

a handheld wireless telephone;

a wireline telephone;

a docking station comprising:

translation means for translating communication signals between the handheld wireless telephone and the wireline telephone;

a main controller box;

a releasable connecting module removably connected to the main controller box, the releasable connecting module being used to connect the handheld wireless telephone to the main controller box; and

wired means for connecting the docking station to the wireline telephone, wherein the wireline telephone is connected to the wired means; and the handheld wireless telephone is connected to the releasable connecting module.

37. A main controller box for use in association with a releasable connecting module, the main controller box comprising:

means for connecting the main controller box to the releasable connecting module;

wired means for connecting to a wireline telephone;

translation means for translating communication signals between the main controller box and a wireline telephone; and

communication means for simulating communication signals in a manner to make it appear to users of the wireline telephone that the wireline telephone is connected to a landline telephone network.

38. The main controller box as claimed in claim 37, wherein the communication means simulates at least the following features available on conventional telephone networks: multi-party conferencing, call hold, call mute, call forwarding, fax notification, net mail

notification voice mail, one touch voice mail retrieval, caller identification, short message service and call waiting.

39. The main controller box as claimed in claim 38 further comprising a data bus connector for connecting to a corresponding data bus connector in the releasable connecting module, and an automatic locking device for connecting to a corresponding automatic locking device of the releasable connecting module.

- ~~40.~~ A releasable connecting module for use in association with a main controller box, the releasable connecting module comprising:

a first data bus connector for connection to a corresponding data bus connector in a handheld wireless telephone; and
a second data bus connector for connection to a data bus connector in the main controller box.

41. The releasable connecting module as claimed in claim 40, wherein the releasable connecting module has retaining means for retaining the handheld wireless telephone.

42. The docking station as claimed in claim 41, wherein the retaining means comprises a portion of a surface of the releasable connecting module defining a cup, the cup being substantially the same shape and size as a surface of the handheld wireless telephone having a data bus connector, the cup further comprising the first data bus connector for connection to the data bus connector of the handheld wireless telephone, whereby the first

data bus connector contacts the data bus connector of the handheld wireless telephone when the handheld wireless telephone is inserted into the cup.

43. The releasable connecting module as claimed in claim 42, further comprising translation means for translating communication signals between the main controller box and a predetermined make and model of handheld wireless telephone.

44. The releasable connecting module as claimed in claim 43, further comprising means for connecting to a second releasable connecting module.

45. The releasable connecting module as claimed in claim 44, further comprising an automatic locking device to connect the releasable connecting module to an automatic locking device of the main controller box.